

I CLAIM:

1. A holding apparatus for temporarily securing an imager having a ferro-magnetic component, said apparatus comprising:

5 a grip face adapted to abut said imager; and
a magnet disposed to selectively, magnetically engage said ferro-magnetic component of said imager.

2. The holding apparatus of claim 1, wherein:

10 said magnet is a permanent magnet; and further comprising
a handle coupled to said magnet for rotating said magnet between an on position and an off position; and
a magnetically permeable shunt path for shunting magnetic flux therethrough when said magnet is rotated to said off position.

15 3. The holding apparatus of claim 1, wherein:

said shunt path includes two ferro-magnetic blocks spaced apart from one another;

20 a portion of each of said blocks forms a portion of said grip face; and
each of said blocks at least partially encircles said magnet.

25 4. The holding apparatus of claim 3, wherein:

said permanent magnet is shaped as a rectangular solid having at least one flat pole face.

5. The holding apparatus of claim 4, and further including:

a cylindrical pole piece disposed adjacent said flat pole face.

6. The holding apparatus of claim 2, wherein:

30 said magnet is held in an armature assembly.

7. The holding apparatus of claim 6, wherein:
the armature assembly includes a non-magnetic shaft.
8. The holding apparatus of claim 6, wherein:
5 said handle is affixed to the armature assembly such that the armature assembly
can be manually rotated by the action of rotating said handle.
9. The holding apparatus of claim 6, wherein:
said magnet is held within a shaft of the armature.
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10. The holding apparatus of claim 9, further comprising:
two cylindrical pole pieces, one of said pole pieces disposed adjacent a first pole
face of said magnet, and the other of said pole pieces disposed adjacent a second pole
face of said magnet.
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11. The holding apparatus of claim 6, wherein:
the imager is held by magnetic flux against a grip face when the armature
assembly is rotated to an on position.
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12. A magnetic chuck for holding an imager, comprising:
a non ferromagnetic housing;
two ferromagnetic blocks affixed to said housing; and
a magnet rotatably affixed between said blocks such that a magnetic field can
selectively be routed through said blocks or between said blocks.
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13. The magnetic chuck of claim 12, and further including:
a grip face positioned such that when the magnetic field is routed between said
blocks then the magnetic field passes across the grip face.
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14. The magnetic chuck of claim 12, and further including:
a knob for manually rotating said magnet.

15. The magnetic chuck of claim 12, wherein:
said housing is made of aluminum.

5 16. The magnetic chuck of claim 12, further comprising:
a magnetic armature at least partially surrounded by said blocks.

17. The magnetic chuck of claim 16, wherein:
the armature includes a non ferromagnetic shaft at least partially enclosing said
10 magnet.

18. The magnetic chuck of claim 17, and further including:
at least one pole piece adjacent to said magnet.

15 19. The magnetic chuck of claim 18, wherein:
the quantity of pole pieces is two.

20. The magnetic chuck of claim 12, wherein:
said magnet flux from said magnet is routed through said blocks when said
20 magnet is rotated to an off position.

21. A magnetic chuck for positioning an imager assembly, said magnetic chuck
comprising:
a contact surface for engaging said imager assembly; and
25 means for generating a magnetic field to attract said imager assembly to hold said
imager assembly to said contact surface.

22. The magnetic chuck of claim 21, wherein: said means for generating a magnetic
field to attract said imager assembly includes:
30 a magnetic shunt path; and
means for selectively directing said magnetic field through said shunt path.

23. A method for mounting an imager assembly to another apparatus, said method comprising:

magnetically coupling said imager assembly to a positioning device;

5 positioning said imager with respect to said other apparatus with said positioning device;

fixing said imager with respect to said other apparatus; and

disengaging said imager from said positioning device.

10 24. The method of claim 23, wherein:

said step of magnetically coupling said imager assembly to said positioning device includes directing a magnetic field to attract said imager assembly; and

said step of disengaging said imager includes redirecting said magnetic field through a shunt path.